

## ABSTRACT OF THE DISCLOSURE

A compact rolling bearing with a rotation sensor is proposed which has a shortened axial length of a housing for mounting the rotation sensor. The rolling bearing comprises a rotating bearing ring and a fixed bearing ring, and the rotation sensor comprises a rotating element mounted to the rotating bearing ring and a detecting element mounted on the fixed bearing ring so as to oppose the rotating element, and an electric circuit board. The electric circuit board has a flexibility. With this arrangement, it is possible to mount the electric circuit board in a curved state in a limited space on a peripheral wall of the sensor housing, and thus to shorten the axial length of the sensor housing. This provides a compact rolling bearing with the rotation sensor. Another embodiment has a magnetic encoder, the binder for which is heat-resistant nitrile rubber, fluorine rubber or silicone rubber.